ORIGINATOR Director, Bureau of Highway Operations		8-1-3
CHAPTER 8	Detector and Controller Logic	
SECTION 1	Vehicle Detection	
SUBJECT 3	General	

Inherent to modern signal design and operations is vehicle detection. Proper consideration must be given to providing vehicle detection that will result in efficient and safe signal operations. The primary goal is to be able to detect vehicles and transmit this data back to the controller as input for controlling signal indications.

There are two general types of loop detector placements. The first type is referred to as "advance" or "far" detection and is used generally for mainline through traffic detection and side road extensions. It is located well in advance of the stop line. The second type is "near" or "stopline" detection. It is usually located near the stop line. Detectors are typically operated in presence mode, which means as long as a vehicle is within the zone of detection; it will continue to be detected, until it leaves the zone of detection.

It *should* be noted that efficient signal operations and timings are directly related to all detector placement strategies and methods. As with all traffic control devices, adjustments to loop placement and size *may* be necessary depending on actual field conditions and *should* be verified in the field by the maintaining authority prior to installation.

This section covers the various loop layout strategies, which can be used for left turn lanes, advance detection, and near detection. In addition, the loop types, inductance calculation, construction considerations, and detector/controller modes of operation are also discussed.